

APPENDIX K

In the bus-based system of this invention, a mechanism is provided to give each device on the a unique device identifier (device ID) after power-up or under other conditions as desired or needed by the system. A master can then use this device ID to access a specific device, particularly to set or modify registers 170 of the specified device, including the control and address registers. In the preferred embodiment, one master is assigned to carry out the entire system configuration process. The master provides a series of unique device ID numbers for each unique device connected to the bus system. In the preferred embodiment, each device connected to the bus contains a special device-type register which specifies the type of device, for instance CPU, 4 MBit memory, 64 MBit memory or disk controller. The configuration master should check each device, determine the device type and set appropriate control registers, including access-time registers 173. The configuration master should check each memory device and set all appropriate memory address registers 172.

One means to set up unique device ID numbers is to have each device to select a device ID in sequence and store the value in an internal device ID register 171. For example, a master can pass sequential device ID numbers through shift

registers in each of a series of devices, or pass a token from device to device whereby the device with the token reads in device ID information from another line or lines. In a preferred embodiment, device ID numbers are assigned to devices according to their physical relationship, for instance, their order along the bus.